Amendments to the Claims:

1   1 (Original).   A method comprising the steps of:

2   a) determining that a datagram arriving at an interface between a network

3   and an edge resource is the initial datagram in a sequence of datagrams associated

4   in a common session as to which a new connection is requested;

5   b) providing a table of values indicating the probability that a new connection

6   will be allowed for each of a plurality of pipes;

7   c) determining the pipe membership of a determined initial datagram by

8   testing Quality of Service bits in said datagram and selecting from the provided table

9   a probability value corresponding to the determined pipe membership of the

10   determined initial datagram; and

11   d) determining from the selected probability value whether establishment of

12   a new connection will be allowed for the associated session and selectively

13   acknowledging the determined initial datagram and allowing a new connection for

14   the associated session based upon the determination of whether a new connection

15   will be allowed.

1   2 (Original).   The method according to Claim 1, wherein the step of determining

2   allowability of a session and selectively acknowledging an initial datagram further

3   includes the steps of:

4   e) providing a random number;

5   f) performing a comparison of a current value of the random number with the

6   new connection allowance probability value selected from the table of values;

7   g) disregarding the initial datagram if the current state of the random number

8   generator is greater than the new connection allowance probability value; and

9   h) sending the initial datagram to an edge device or to an attached session

10   handling device wherein an acknowledgment signal can be computed and

11   transmitted if the current state of said random number generator is less than or

12   equal to the new connection allowance probability value.

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1   3 (Previously presented).   The method according to Claim 2, wherein the random

2   number and the new connection allowance probability value are both fractions

3   between 0 and 1.0.

1   4 (Original).   The method according to Claim 1, wherein the step of determining

2   pipe membership further includes the step of comparing administratively specified

3   values with the value of selected fields in a packet header of the datagrams.

1   5 (Original).   The method according to Claim 4, wherein said selected fields of a

2   packet header comprises the Differentiated Services Code Point (DSCP) field in a

3   standard IP packet header.

1   6 (Original).   The method according to Claim 4, wherein said selected fields of a

2   packet header comprise the components used for MPLS tunnel designation.

1   7 (Original).   The method according to Claim 1, wherein the step of determining

2   whether a datagram constitutes a request for a new connection of a certain value

3   further includes the step of comparing administratively specified values with the

4   value of selected fields in a packet header of the datagram.

1   8 (Original).   The method according to Claim 7, wherein the selected fields of a

2   packet header comprise the Transmission Control Protocol (TCP) Synchronization

3   (SYN) field in a standard TCP packet header.

1   9 (Original).   The method according Claim 1 wherein the table of values is indexed

2   according to pipe numbers with each corresponding table entry representing the

3   new connection allowance probability corresponding to the associated pipe.

1   10 (Original).   The method according to Claim 1, further comprising the step of

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2   responding to actual offered loads of simultaneous connections in each of said

3   pipes relative to guaranteed connection numbers of those pipes by altering the

4   values in the table.

1   11 (Original).   The method according to Claim 10, further comprising the step of

2   generating a signal indicative of the existence or nonexistence of excess connection

3   capacity within the interface that affects a pipe flowing through the interface and

4   wherein the altering of the table values is further responsive to the generated signal.

1   12 (Original).   The method according to Claim 11, wherein the step of generating

2   a signal includes manipulation of multiple components each of which corresponds

3   to excess connection capacity within an interface, and further wherein the pipes

4   within the interface are grouped according to which shared resources within the

5   interface are currently dedicated to the processing of the grouped pipes.

1   13 (Currently amended).   A method that controls the flow of datagrams including

2   the steps of:

3   a) providing, in an interface with Connection Allocation Technology (CAT),

4   a table identifying pipes and associated new connection allowance probability for

5   each pipe in said table;

6   b) determining the identity of each datagram received in said interface by

7   examining bits within said datagram;

8   c) correlating datagram identity in step (b) with entries in the table; and

9   d) allowing or disallowing a request for a new connection represented in the

10   initial datagram of a new session based upon the value of the new connection

11   allowance probability only if the datagram identified in step (b) matches the identity

12   of a pipe in the table.

1   14 (Original).   The method of Claim 13 wherein numerals are used to indicate the

2   identity of pipes and the identity of datagrams.

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1   15 (Original).   The method of Claim 14 further including the steps of providing a
2   random number generator; and   allowing or disallowing a request for a new
3   connection represented in the initial datagram of a new session based upon the
4   value of the new connection allowance probability and a present value of the
5   random number generator.

1   16 (Original).   A method of managing congestion in a communications network
2   comprising the steps of:
3   operatively monitoring, with a device for determining the existence of excess
4   connection capacity, the existence of excess connection capacity within a
5   communications device;
6   generating a signal indicating existence or nonexistence of said excess
7   connection capacity in said communications device; and
8   using the generated signal to acknowledge or disregard requests for new
9   connections in the form of initial packets of new sessions prior to initiating
10 processing on the new connections.

1   17 (Original).   Apparatus comprising:
2   a) a memory in which a table of pipe identifiers and associated values for
3   new connection allowance probabilities of transmission are stored;
4   b) a buffer which stores a portion of a frame determined to be an initial frame
5   of a new session;
6   c) a random number generator that periodically outputs random numbers;
7   d) a controller operatively coupled to said memory, said buffer and said
8   random number generator, said controller:
9   parsing information stored in said buffer to determine a pipe
10   membership number for the initial frame,
11   determining from said table a new connection allowance probability
12   value corresponding to the determined pipe membership number,

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13   comparing the probability value with a present value of the random
14   number generator, and
15   causing the initial frame to be acknowledged or disregarded based
16   upon the result of the comparison.

1   18 (Original). Apparatus according to Claim 17, further comprising an interface to
2   an external controller separate from said apparatus, said interface being coupleable
3   through the external controller to at least one other network device and altering the
4   probability values stored in said memory to indicating new connection allowance
5   probability values in response to algorithm constants and determined actual
6   connection values in each identified pipe relative to guaranteed connection values
7   for those pipes.

1   19 (Original). Apparatus according to Claim 17, wherein said controller alters the
2   probability values indicating new connection allowance probability in response to
3   algorithm constants and actual current connection number data for each of said
4   pipes relative to guaranteed data connection values for those pipes.

1   20 (Previously presented). Apparatus according to one of Claims 18 or 19, further
2   comprising a management component which initializes the algorithm constants and
3   guaranteed data connection values for pipes.

1   21 (Original). Apparatus according to Claim 19, wherein said controller responds
2   to a signal from a packet forwarding device communicating with said apparatus
3   indicating the existence of excess connection capacity within that forwarding device
4   that affects a pipe flowing through said apparatus by altering the table of values
5   stored in said memory.

1   22 (Original). Apparatus according to Claim 18, wherein said interface passes to
2   the external controller a signal from said apparatus indicating excess connection

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3   capacity within said apparatus that affects a pipe flowing through said apparatus.

1   23 (Original).   Apparatus according to one of Claims 21 or 22, wherein said signal
2   includes multiple components each of which corresponds to the existence of excess
3   connection capacity within a different set of processing resources, said pipes
4   flowing through said apparatus being grouped according to which shared resources
5   they direct data to, and wherein the assignment of said values is performed
6   separately for each group of pipes.

1   24 (Previously presented).   Apparatus comprising:
2   an interface between a network such as the Internet and an edge resource;
3   and
4   an excess connection capacity monitoring device operatively coupled to said
5   interface, said excess connection capacity monitoring device monitoring connection
6   numbers in said interface and in said edge resource and generating at least one
7   signal indicating the existence of an excess connection capacity state in said
8   interface and said edge device.

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